

REMARKS

Applicants respectfully request reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow.

Claim 15 is currently being amended. No new matter is added.

This amendment changes a claim in this application. A detailed listing of all claims that are, or were, in the application, irrespective of whether the claim(s) remain under examination in the application, is presented, with an appropriate defined status identifier.

After amending the claims as set forth above, claim 15 is now pending in this application.

Rejections under 35 U.S.C. § 103

Claim 15 stands rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,060,686 to Jones (hereafter “Jones”) in view of Applicant’s Admitted Prior Art (AAPA) and U.S. Patent No. 5,938,954 to Onuma et al. (hereafter “Onuma”). Applicants respectfully traverse this rejection for at least the following reasons.

Claim 15 recites “wherein the nozzle is formed as a disk having a flat surface area extending in a circumferential direction thereof and having the gas exit at the center thereof, the nozzle having a circular groove extending in a circumferential direction thereof on the surface of the workpiece.” The references cited in the rejection of claim 15 fail to suggest at least this feature, or the advantages attendant thereto.

The Office Action on page 2 relies on Jones for allegedly disclosing “where the nozzle is formed as a disk having a gas exit at the center thereof having a flat surface area extending in a circumferential direction thereof” and refers to item 20 of Jones and Figure 2, col. 3, lines 25-40. The nozzle outlet 20c of the nozzle 20 of Jones, however, is not formed as a disk, but is a hollow cylindrical nozzle as can be seen in FIG. 2. Thus, Jones fails to suggest “where the nozzle is formed as a disk having a gas exit at the center thereof having a flat surface area extending in a circumferential direction thereof” as recited in claim 15.

The Office Action on page 2 relies on Onuma for disclosing a nozzle having a circular groove and protrusions on the surface. The grooves 43 of Onuma, however, are linear to allow thin wires 41 to move up and down in an axial direction in frame 42 (See Figs. 8(a), 8(b), 9; col. 15, lines 21-33). Moreover, the grooves 43 project into the irregular surface 46 that is being operated on by the Onuma nozzle. Thus, in contrast to claim 15, Onuma fails to disclose a circular groove that extends in a circumferential direction of a disk-shaped nozzle, nor do the grooves extend along the surface of the nozzle facing the workpiece.

Moreover, Jones and Onuma fail to suggest the advantages attendant to the method of claim 15. The groove arranged as recited in claim 15 may act as resistance against water, even if bubbles are generated during the operation (see present specification, page 8, paragraph [0036]). Thus, the gas atmosphere may be maintained within the nozzle. Jones and Onuma, failing to suggest a nozzle with the groove as arranged in claim 15, fail to suggest the advantages resulting from this arrangement.

The AAPA was cited for teaching supplying a welding wire from within the nozzle to a certain point, but fails to cure the deficiencies of Jones and Onuma.

Applicants believe that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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